



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Re:           Applicant:           Claudio Miguel SUAREZ, et al.  
                  Application No.:   10/517,331  
                  Filing Date:       December 9, 2004  
                  For:               **TRANSFER LAYER OF LIQUID FLUIDS AND AN**  
   **ABSORBENT ARTICLE INCORPORATING THE**  
   **SAME**  
                  Confirmation No.: 2921  
                  Examiner:         Michael G. BOGART  
                  Art Unit:          3761  
                  Attorney Docket: 331.1082  
                  Customer No.:   23280

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May 5, 2008

**APPELLANTS' BRIEF UNDER 37 C.F.R. 41.37**

Sir:

Appellants submit this brief for the consideration of the Board of Patent Appeals and Interferences (the "Board") in support of their appeal of the Final Office Action dated September 10, 2007 in this application. The statutory fee of \$510.00 is submitted herewith.

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### 1. REAL PARTY IN INTEREST

The real party in interest is Carl Freudenberg KG, a German corporation having a place of business in Weinheim, Germany, and the assignee of the entire right, title and interest in the above-identified patent application. The invention was assigned to Carl Freudenberg KG by assignment by inventor Claudio Miguel Suarez. The assignment was recorded on April 2, 2008 at reel 020746, frame 0477.

### 2. RELATED APPEALS AND INTERFERENCES

Appellants, their legal representatives, and assignee are not aware of any appeal, interference or judicial proceeding that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.

### 3. STATUS OF CLAIMS

Claims 1 to 10 were cancelled without prejudice via a Preliminary Amendment dated December 9, 2004. Claims 11 to 27 have been rejected as per the Final Office Action dated September 10, 2007.

The rejection to claims 11 to 27 thus is appealed. A copy of appealed claims 11 to 27 is attached hereto as Appendix A.

### 4. STATUS OF AMENDMENTS

No amendments to claims were filed after the Advisory Action. A Notice of Appeal was filed on February 8, 2008 and received by the U.S.P.T.O. on February 11, 2008.

## 5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 11 recites “A transfer layer for a liquid fluid and for application in an absorbent article of personal use, the transfer layer comprising:

a top layer of predominantly hydrophobic fibrous material (e.g., page 5, lines 12 to 15 and page 9, lines 6 to 7);

a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions (e.g., page 9, lines 8 to 12), a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels (e.g., page 9, line 13), wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks (e.g., page 9, lines 13 to 19).

Independent claim 24 recites: “An article for the absorption and retention of a liquid fluid, comprising:

a cover permeable to fluids and configured to be in contact with a user's skin(e.g., page 7, lines 5 to 8);

a transfer layer provided below the cover (e.g., page 7, lines 7 to 8 and page 9, lines 4 to 5), the transfer layer including a top layer of predominantly hydrophobic fibrous material and a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of longitudinal joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions (e.g., page 7, lines 9 to 13 and page 9, lines 6 to 12), a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels (e.g., page 7, line 13 and page 9, line 13), wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks (e.g., page 7, lines 13 to 16), wherein the channels are in contact with the cover (e.g., page 10, lines 18 to 20 and Figures 2, 3 and 4);

an absorbent core configured to absorb and retain the liquid fluid (e.g., page 10, lines 28 to 31).

#### 6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 11 to 14 and 18 to 27 should be rejected under 35 U.S.C. §102(b) as being anticipated by Roxendal et al. (WO 99/27879 A2). Whether claims 15 to 17 should be rejected under 35 U.S.C. §103(a) as being unpatentable over Roxendal et al. (WO 99/27879 A2).

## 7. ARGUMENTS

### **Rejections under 35 U.S.C. §102(b): Roxendal**

Claims 11 to 14 and 18 to 27 were rejected under 35 U.S.C. §102(b) as being anticipated by Roxendal et al. (WO 99/27879 A2).

Roxendal et al. discloses an incontinence guard 1 comprising a liquid pervious top layer 2, a liquid impervious back layer 3 and an absorbent body 4 enclosed therebetween. (See Roxendal et al., page 4, lines 8 to 10). Furthermore, a porous and resilient liquid acquisition layer 5 is arranged between the liquid pervious top layer 2 and the absorbent body 4. (See Roxendal et al., page 4, lines 10 to 11).

Independent claim 11 recites “a transfer layer for a liquid fluid and for application in an absorbent article of personal use, the transfer layer comprising: a top layer of predominantly hydrophobic fibrous material; a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions, a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels, wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks.”

Applicants note that the U.S. Patent (U.S. Patent No. 6245901 to Roxendal) which corresponds to WO99/27879 to Roxendal as cited in the Final Office Action is discussed in the present specification at page 2, full paragraph 3 under “Foregoing of the Invention” through page 4.

The Final Office Action asserts that “Roxendal teaches that layer 5(d) is less hydrophilic than, hence more hydrophobic than, subjacent hydrophilic layer (5e).” See Final Office Action, page 5, full paragraph 6. The Advisory Action asserts that “[t]he terms “hydrophobic” and “hydrophilic” are qualitative or relative terms.” See Advisory Action, page 2. The Advisory Action further asserts that “Roxendal’s top layer (5d) is of fibrous material that is predominately hydrophobic (low degree of moisture absorption) relative to that of lower layer (5e).” See Advisory Action, page 2. The Advisory Action further asserts that “the lower layer (5e) is made of a fibrous

material that is predominantly hydrophilic (high degree of moisture absorption) relative to the top layer (5d).” See Advisory Action, page 2.

The Applicant respectfully submits that the phrase “less hydrophilic” even if hypothetically used to describe a top layer would not suggest “a top layer of predominantly hydrophobic fibrous material” as recited in claim 11 of the present invention. Just because it is less hydrophilic does not mean in any way that it is “predominantly hydrophobic.”

Applicant respectfully submits that Roxendal does not show “the transfer layer comprising: a top layer of predominantly hydrophobic fibrous material” as claimed. Roxendal discloses the material layer 5 has been used as an acquisition layer 5 underneath a liquid pervious top layer 2. (See Roxendal et al., page 4, lines 10 to 11).

The layer 5 can also contain at least two different types of fibres 9, which constitute the different zones 5a-e. (See Roxendal et al., page 10, lines 23 to 24). Roxendal discloses that fibers of a higher thickness can be used in an upper layer 5d and thinner fibres in the lower layer 5e, whereby a pore size gradient is created in the z-direction of the layer which facilitates the liquid transport in the z-direction. (See Roxendal et al., page 11, lines 18 to 20). Roxendal discloses that hydrophilic fibres can be used in the central zone 5b and hydrophobic fibres in the edge portions 5a and c, in order to create side barriers against liquid spreading out towards the edges. (See Roxendal et al., page 11, lines 30 to 33). However, Roxendal does not show or teach that the transfer layer (5d) comprises a top layer of predominantly hydrophobic fibrous material. In fact, it is hydrophilic as in this direction the layer 5d is attempting to pass liquid. Roxendal merely discloses that a hydrophilicity gradient may be created in the z-direction of the layer 5 by means of arranging fibres with increasing hydrophilicity from the upper 5d towards the lower layer 5e. Roxendal does not show or teach at all that the transfer layer (5d) comprises a top layer of predominantly hydrophobic fibrous material, (See Roxendal et al., page 12, lines 14 to 16), and a fair reading of the disclosure indicates that 5d is not hydrophobic like the side zones 5a, 5c.

Even under the Final Office Action’s assertion that ““predominantly hydrophobic” means that the layer 5(d) is chiefly non-water retaining relative to the “predominantly hydrophilic “ layer (5e) that is chiefly water retaining relative to layer

(5d)", does not mean in any way that it is "predominantly hydrophobic."

Withdrawal of the rejection to independent claim 11 and its dependent claims 12 to 14 and 18 to 23 under 35 U.S.C. § 102 (b) is respectfully requested.

With respect to independent claim 24, claim 24 recites: "an article for the absorption and retention of a liquid fluid, comprising: a cover permeable to fluids and configured to be in contact with a user's skin; a transfer layer provided below the cover, the transfer layer including a top layer of predominantly hydrophobic fibrous material and a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of longitudinal joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions, a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels, wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks, wherein the channels are in contact with the cover; an absorbent core configured to absorb and retain the liquid fluid."

Roxendal also does not show or teach that the transfer layer (5d) includes "a top layer of predominantly hydrophobic fibrous material and a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of longitudinal joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions, a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels, wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks, wherein the channels are in contact with the cover; an absorbent core configured to absorb and retain the liquid fluid" as claimed.

Withdrawal of the rejection to claim 24 and its dependent claims 25 to 27 under 35 U.S.C. § 102 (b) is respectfully requested.

Claim 12: Argued Separately

Claim 12 was rejected under 35 U.S.C. §102(b) as being anticipated by Roxendal et al. (WO 99/27879 A2).

The Roxendal patent is discussed above.

Claim 12 recites in relevant part “wherein the plurality of peaks define zones of superficial liquid distribution to the channels.”

With respect to the rejection to claim 12, Applicants respectfully submit that Roxendal does not show or teach “wherein the plurality of peaks define zones of superficial liquid distribution to the channels” as recited in claim 12 of the present invention. Instead, Roxendal discloses that fibers of a higher thickness can be used in an upper layer 5d and thinner fibers in the lower layer 5e, whereby a pore size gradient is created in the z-direction of the layer which facilitates the liquid transport in the z-direction. (See Roxendal et al., page 11, lines 18 to 20). Roxendal discloses that hydrophilic fibres can be used in the central zone 5b and hydrophobic fibres in the edge portions 5a and c, in order to create side barriers against liquid spreading out towards the edges. (See Roxendal et al., page 11, lines 30 to 33).

Withdrawal of the rejections to claim 12 is respectfully requested.

**35 U.S.C. 103(a) Rejections- Roxendal**

Claims 15 to 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Roxendal et al. (WO 99/27879 A2).

In view of the comments above with respect to claim 11, withdrawal of the rejections to the dependent claims 15 to 17 under 35 U.S.C. § 103 (a) is respectfully requested.

**Claim 15: Argued Separately**

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Roxendal et al. (WO 99/27879 A2).

The Roxendal patent is discussed above.

Claim 15 recites in relevant part “wherein a thickness of the top layer is between 0.6 and 10 mm at the peaks and between 0.1 and 0.4 mm at the joining region of the top layer.”

With further respect to claim 15, as admitted in the Final Office Action, “Roxendal does not expressly disclose the specifically claimed dimensional limitations and fiber density” as claimed. See Final Office Action, page 5, full



paragraph 4. The Final Office Action then asserts that “[m]ere changes in size alone are not sufficient to patentably distinguish a claimed invention over the prior art. See Final Office Action, page 5, full paragraph 4.

As stated in the present specification, the Roxendal absorbent article “is constructed with a layer of continuous fibers, frequently called “TOW”, bonded among each other at distinct points, lines or sectors according to a pattern, while in other parts they are not bonded.” See present specification, page 2, full paragraph 3 under “Foregoing of the Invention” through page 3, line 1. Although the absorbent article of Roxendal may present certain structural differences concerning the design of the transfer layer, it is not expressly stated that the aforementioned problems are solved by referring to the structure of the conventional absorbent articles and particularly referring to the passage of the liquid fluids through the transfer layer.

Figure 4 of Roxendal, shows that the bonding method provided in the transfer layer have a pattern of many straight paths with an alternating orientation among each other and a transversal orientation with respect to the longitudinal orientation of the fibers which the transfer layer is made of.

From the description and illustration of the absorbent article of Roxendal it must be concluded that the segments and points or sectors of union constructed in the transfer layer serve the purpose of consolidating or reinforcing the internal structure formed by the fibers which the transfer layer is composed of. Whatever configuration be adopted it does not contribute to improving the capacity of absorption and transfer of the liquids which pass through the absorbent layer and must be retained in the absorbent core.

In view of the comments above, withdrawal of the rejection to the dependent claim 15 under 35 U.S.C. § 103 (a) is respectfully requested.

Claim 16: Argued Separately

Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over Roxendal et al. (WO 99/27879 A2).

The Roxendal patent is discussed above.

Claim 16 recites in relevant part “wherein a fiber density of the transfer layer in the peaks is lower than the fiber density at the joining regions.”

With further respect to claim 16, as admitted in the Final Office Action, “Roxendal does not expressly disclose the specifically claimed dimensional limitations and fiber density” as claimed. See Final Office Action, page 5, full paragraph 4. The Final Office Action then asserts that “[m]ere changes in size alone are not sufficient to patentably distinguish a claimed invention over the prior art. See Final Office Action, page 5, full paragraph 4.

From the description and illustration of the absorbent article of Roxendal it must be concluded that the segments and points or sectors of union constructed in the transfer layer serve the purpose of consolidating or reinforcing the internal structure formed by the fibers which the transfer layer is composed of. Whatever configuration be adopted it does not contribute to improving the capacity of absorption and transfer of the liquids which pass through the absorbent layer and must be retained in the absorbent core.

In view of the comments above, withdrawal of the rejection to the dependent claim 16 under 35 U.S.C. § 103 (a) is respectfully requested.

Claim 17: Argued Separately

Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Roxendal et al. (WO 99/27879 A2).

The Roxendal patent is discussed above.

Claim 17 recites in relevant part “wherein the fiber density of the transfer layer in the peaks is between 0.03 and 0.2 g/cm<sup>3</sup> and the fiber density at the joining regions is between 0.18 and 0.35 g/cm<sup>3</sup>.”

With further respect to claim 17, as admitted in the Final Office Action, “Roxendal does not expressly disclose the specifically claimed dimensional limitations and fiber density” as claimed. See Final Office Action, page 5, full paragraph 4. The Final Office Action then asserts that “[m]ere changes in size alone are not sufficient to patentably distinguish a claimed invention over the prior art. See Final Office Action, page 5, full paragraph 4.

From the description and illustration of the absorbent article of Roxendal it must be concluded that the segments and points or sectors of union constructed in the transfer layer serve the purpose of consolidating or reinforcing the internal structure formed by the fibers which the transfer layer is composed of. Whatever configuration be adopted it does not contribute to improving the capacity of absorption and transfer of the liquids which pass through the absorbent layer and must be retained in the absorbent core.


In view of the comments above, withdrawal of the rejection to the dependent claim 17 under 35 U.S.C. § 103 (a) is respectfully requested.

**CONCLUSION**

It is respectfully submitted that the application is in condition for allowance.  
Favorable consideration of this Appeal Brief is respectfully requested.

Respectfully submitted,

DAVIDSON, DAVIDSON & KAPPEL, LLC

By:   
William C. Gehris, Reg. No. 38,156

Davidson, Davidson & Kappel, LLC  
485 Seventh Avenue  
New York, New York 10018  
(212) 736-1940

**APPENDIX A:**

**APPEALING CLAIMS 11 to 27 OF  
U.S. APPLICATION SERIAL NO. 10/517,331**

Claim 11 (original): A transfer layer for a liquid fluid and for application in an absorbent article of personal use, the transfer layer comprising:

a top layer of predominantly hydrophobic fibrous material;

a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions, a plurality of peaks being formed of the top and bottom layers between adjacent ones of the plurality of channels, wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks.

Claim 12 (original): The transfer layer as recited in claim 11, wherein the plurality of peaks define zones of superficial liquid distribution to the channels.

Claim 13 (original): The transfer layer as recited in claim 11, wherein a hydrophobia of the top layer and a hydrophilicity of the bottom layer are such that the liquid fluid is transferred through the top layer to the bottom layer at the channels.

Claim 14 (original): The transfer layer as recited in claim 13, wherein the hydrophobia of the top layer and the hydrophilicity of the bottom layer are such that the liquid fluid is impeded from transferring through the top layer to the bottom layer at the peaks.

Claim 15 (original): The transfer layer as recited in claim 14, wherein a thickness of the top layer is between 0.6 and 10 mm at the peaks and between 0.1 and 0.4 mm at the joining region of the top layer.

Claim 16 (original): The transfer layer as recited in claim 11, wherein a fiber density of the transfer layer in the peaks is lower than the fiber density at the joining regions.

Claim 17 (original): The transfer layer as recited in claim 16, wherein the fiber density of the transfer layer in the peaks is between 0.03 and 0.2 g/cm<sup>3</sup> and the fiber density at the joining regions is between 0.18 and 0.35 g/cm<sup>3</sup>.

Claim 18 (original): The transfer layer as recited in claim 11, wherein the transfer layer has a lower hydrophobia at the joining regions than at the peaks.

Claim 19 (original): The transfer layer as recited in claim 11, wherein a coefficient of hydrophobia in the top layer decreases from the peaks to the channels.

Claim 20 (original): The transfer layer as recited in claim 11, wherein the top layer and the bottom layer provide for a unidirectional flow of the liquid fluid.

Claim 21 (original): The transfer layer as recited in claim 11, wherein the article includes one of a diaper, a sanitary napkin and a bandage.

Claim 22 (previously presented): The transfer layer as recited in claim 11, wherein the plurality of channels are arranged in parallel lines.

Claim 23 (original): The transfer layer as recited in claim 11, wherein each of the plurality of channels form a linear region of liquid distribution and transfer.

Claim 24 (original): An article for the absorption and retention of a liquid fluid, comprising:

- a cover permeable to fluids and configured to be in contact with a user's skin;
- a transfer layer provided below the cover, the transfer layer including a top layer of predominantly hydrophobic fibrous material and a bottom layer of predominantly hydrophilic material superimposed on the top layer and joined to the top layer at a plurality of longitudinal joining regions of the top and bottom layers so as to form a plurality of channels at the joining regions, a plurality of peaks being

formed of the top and bottom layers between adjacent ones of the plurality of channels, wherein a transversal thickness of the top and bottom layers is lower at the joining regions than at the peaks, wherein the channels are in contact with the cover;  
an absorbent core configured to absorb and retain the liquid fluid.

Claim 25 (original): The article as recited in claim 24, wherein the transfer provides a unidirectional liquid transfer layer for passing the liquid fluid through the permeable cover to the absorbent core.

Claim 26 (original): The article as recited in claim 24, wherein the article includes at least one of a diaper, a sanitary napkin, and a bandage.

Claim 27 (original): The article as recited in claim 24, wherein each of the plurality of channels forms a linear region of liquid distribution and transfer.

**APPENDIX B**

Evidence Appendix under 37 C.F.R. §41.37 (c) (ix):

No evidence pursuant to 37 C.F.R. §§1.130, 1.131 or 1.132 and relied upon in the appeal has been submitted by appellants or entered by the examiner.



**APPENDIX C**

Related proceedings appendix under 37 C.F.R. §41.37 (c) (x):

As stated in “2. RELATED APPEALS AND INTERFERENCES” of this appeal brief, appellants, their legal representatives, and assignee are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board’s decision in this appeal.